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ABSTRACT

This paper reports on the programs and research projects developed and/or undertaken by the Center to promote the development of high risk children. Included are descriptions of the Center's Longitudinal Program and its nine project components which concentrate on the early development of basic abilities among children from low income families. Other aspects of the Center's efforts described include a number of individual research projects, demonstration and development programs, and outreach and training programs. These additional programs and projects address such issues as health, learning disabilities, ethnography, infant and early childhood curricula, and day care technical assistance and training. Special public policy activities developed by the Bush Institute for Child and Family Policy are outlined. In addition, programs and support services implemented to deal with the administration and funding of programs and projects sponsored by the Center are described. A list of the Center's staff is provided. (EB)

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Status Report on Programs and Projects

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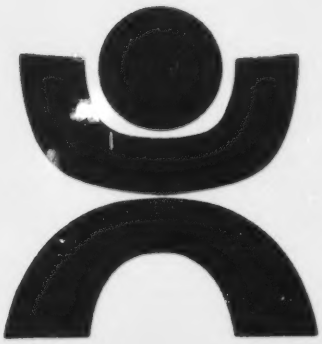

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Introduction

When it was founded in 1966, the FPG Child Development Center took its name from the North Carolina statesman and educator, Dr. Frank Porter Graham. Although the Center has grown and diversified in the intervening years, its remains committed to promoting the development of children, especially those from backgrounds where the risk of academic problems is high.

In 1968, FPG was designated one of the nation's 12 mental retardation research centers. In 1972 FPG began its first research project intended to discover ways to prevent retardation attributable to poverty, but it was not until 1975 that FPG acquired funding from the National Institute of Child Health and Human Development to pursue this theme through its Longitudinal Program.

In 1977, FPG's research into mental retardation was expanded with the addition of the Carolina Institute for Research on Early Education for the Handicapped (CIREEH). The Institute's eight studies range from the prevention of mild handicaps to the development of a curriculum for children with severe and multiple handicaps.

FPG's studies also include major investigations into children with learning disabilities and those who are progressing normally. Although its projects represent a multiplicity of approaches to questions about child development, FPG's research has two unifying characteristics. First, FPG provides a multidisciplinary setting: professionals from many disciplines collaborate to bring a broad perspective to bear on research questions. Second, FPG provides a stable setting which allows researchers to pursue longitudinal studies or a series of short-term investigations grouped around a central theme.

Through research, FPG attempts to discover new facts and verify concepts. This is the first stage of knowledge development, one of FPG's four program areas. Each of the other three build upon the discovery of new knowledge:

--Demonstration and Development organize knowledge into products and techniques by drawing upon research findings.

--Outreach and Training put knowledge into practice by drawing upon developed curriculum products and teaching techniques.

--Policy Analysis brings the knowledge of the social scientist to bear on the public need for informed policies.

In 1978, FPG rounded out its program with the addition of the Bush Institute for Child and Family Policy. This new venture, the continued growth of the Center's budget, and the burgeoning publication record of its staff serve as milestones marking FPG's progress. Sadly, however, the year was also marked by the passing of Dr. Ira J. Gordon, noted child development specialist who was dean of the UNC School of Education and Co-Principal Investigator of CIREEH. The Center staff miss his counsel and guidance.

About This Report

This volume was published to meet reporting requirements of various agencies and institutions, to answer requests for detailed information about FPG, and to serve as a reference. A companion volume, Progress Report 1979, has also been published; it is intended for the general public to summarize the Center's status.

This volume was edited by Joseph Sanders and Dia B. Stokes. Funds for its publication were provided by the National Institute of Child Health and Human Development and the State of North Carolina. Comments can be addressed to the editors at The Frank Porter Graham Child Development Center/ Highway 54 Bypass--West/ Chapel Hill, N.C. 27514.

The editors gratefully acknowledge the help of Christine Houghton in the preparation of the manuscript.

Research

The Longitudinal Program

JAMES J. GALLAGHER AND CRAIG RAMEY, CO-PRINCIPAL INVESTIGATORS

The Longitudinal Program, which was initiated in 1975, is enabling FPG to make a comprehensive study of child development during the first years of life. The Program joins nine research projects in a coordinated investigation into the early development of basic abilities. The first project described here, the Abecedarian Project, was initiated in 1972 and was incorporated into the Longitudinal Program in 1975. The projects cluster around unanswered questions about language, intellectual and social development, child health, and task-oriented behavior (the ability to concentrate on a problem and persist).

The nine projects work with the same group of 112 children selected before birth from low-income families. Children from backgrounds of poverty have been shown to face a high risk of developing more slowly than normal and entering school unprepared for classroom learning.

The Program will trace the development of basic abilities in these children from 6 weeks of age into their elementary school years. All the children joined the program at about six weeks of age, and now range from 1 to 7 years. The Program attempts to identify which abilities are crucial to later success and to specify techniques and materials that can be used in homes, daycare centers, and schools to strengthen these abilities. Each project examines the same group of children from a different perspective. When all these perspectives are put together, a more complete picture will begin to emerge showing how to encourage the growth and development of children during the first years of life.

THE ABECEDARIAN PROJECT

CRAIG RAMEY, SENIOR INVESTIGATOR; FRANCES CAMPBELL,
DALE FARRAN, RON HASKINS AND NEAL FINKELSTEIN, INVESTIGATORS

Initiated in 1972, the Abecedarian Project conducts research into the prevention of developmental retardation and school failure that are attributable to poverty and social deprivation. The project includes 112 high-risk children, who range in age from less than 1 year to 7 years, and their families.

The Preschool Program

Children were randomly assigned at birth to an experimental or control group. Both groups receive medical care and social work services on request. The two groups differ in that the experimental children are enrolled in FPG's daycare program when they are between 6 weeks and 3 months of age; the control group children are not enrolled in the Center nor is any other attempt made to change their environments.

Children attend the Center six to eight hours each weekday for about 50 weeks each year for five years. The child-teacher ratio varies from 3:1 for infants to 5:1 for 4-year-olds. Main emphasis is on daily experiences requiring language use and task orientation. The children participate in a variety of activities aimed at supporting normal social, intellectual, and physical development, including participation in a specially developed curriculum until age 3 and supervised free play. After age 3, the curriculum emphasizes linguistic and social skills that are thought to be particularly helpful for successful performance in the public school system. (See also "The Early Childhood Curriculum Development Program" in the Demonstration and Development section of this Report.)

The Elementary School Program

When children from both groups reach kindergarten age, half of each group is randomly assigned to an experimental group and the other half is assigned to a school age control group. These four groups are shown in the accompanying table.

		Preschool Educational Intervention	
		Yes	No
School-age Intervention	Yes	28	28
	No	28	28

The school age experimental group, which is planned to continue until the end of the second grade, receives educational services from home/school resource teachers who are responsible for eight to ten children each. The school age control group does not receive educational services from the home/school resource teacher.

The resource teacher serves as a liaison between the child's parents and classroom teachers to create specific educational activities for the home and classroom. Special emphasis is placed on home/school continuity of education in basic skills such as reading and mathematics. The teacher also serves as the child's general educational advocate to assure that full use is made of all resources within the school system and the community.

Before their entry into the public schools, all children are evaluated by a team of professionals at the Division for Disorders of Development and Learning, which is directed by Dr. Harrie Chamberlin. These assessments are conducted to identify any problems that may have gone undetected in the preschool years. Evaluation disciplines include medicine, audiology, nursing, special education, and others as needed.

The Research

The squares within the table indicate the maximum number of high-risk children who will have completed the program in each of the combination of preschool and school age groups at the end of the project. This general design allows comparison of the relative effects of early versus later intervention.

In addition to these high-risk children, random samples of children at both the preschool and school age levels and their parents are assessed periodically for comparison. These representative families from the general population serve as a baseline against which the effect of educational intervention can be compared.

To evaluate the medical, psychological, and educational consequences of this intervention program, a variety of procedures are used: standardized tests, controlled and semi-naturalistic observations in laboratories, home observations, and interviews.

Mother-Child Interaction

Studies of mother-child interaction constitute a major section of the Abecedarian Project. In 1978, findings in several areas of study were reported. Among the studies:

--The investigators reported the first evidence gathered solely from a high-risk population demonstrating that early mother-child interactions predict a child's IQ score at a later age. The research literature that previously documented the importance of such interactions included a possible socioeconomic confound. Abecedarian research showed that mothers' behaviors toward their children at 18 months of age accounted for approxi-

mately 70% of IQ scores at 36 months of age; predictions were highest for the high-risk control children, who did not attend the FPG daycare program.

--The investigators also gathered data demonstrating that the second year of life may be the crucial age for mother-child interactions. When babies were six months of age, the low-income mothers did not differ significantly in their interactions from a random sample of mothers in the community. When the same babies were 20 months of age, however, the low-income mothers had decreased their levels of interaction, as compared to the other group. The decrease was associated with a precipitous drop in developmental test scores at 18 months of age among those high-risk babies who did not attend the FPG daycare program. This line of research is continuing.

--A continuation of the study of the effects of daycare on the mother child bond, first reported in 1976, showed that children attending daycare preferred to interact with their mothers even when their favorite daycare teacher was present. Evidence indicates that children do not have as intense a relationship with their favorite daycare teachers as they do with their mothers.

Fetal Malnutrition

The random assignment of infants to the daycare and the home control groups resulted in an equal distribution in each group of infants who were fetally malnourished at birth. Fetal malnourishment was defined as a low Ponderal Index (ratio of weight to height). At three months of age, the low-PI infants in both groups performed more poorly than did normal-PI infants in the same groups on the Bayley Mental Development Index (MDI).

By 18 months of age, however, a pattern began to emerge. In the control group, low-PI infants continued to perform more poorly than normal-PI infants. But in the daycare group, low-PI infants scored as well as normal-PI infants. These trends continued at 24 months of age with the Stanford-Binet intelligence tests.

These results indicate that some of the detrimental effects of fetal malnourishment on intellectual performance can be ameliorated during the first 18 months of life in a stimulating environment, and that the amelioration can be maintained through at least two years of age.

PHONOLOGY

GEORGE ALLEN, INVESTIGATOR

This project investigates two related areas:

--the development of rhythmic structures in children's speech from immature to mature patterns; and

--the definition of skills that are prerequisite to successful reading and the training of children in those skills where necessary.

Although these two aspects of language are related, they have been kept separate in the present project, since both are in the preliminary stages of research in which basic hypotheses are being tested.

Phonological Rhythm

Our earlier studies of middle class children and of three FPG children aged between 3½ and 4½ years suggested two things. First, the FPG children do not appear to differ radically from middle class children except in ways that are attributable to differences in dialect or in grammar and vocabulary. Second, as with middle class children, the most significant advances in rhythmic maturity of speech are completed by 4 to 5 years of age. These advances are subtle and hard to define. Accordingly, research during 1978 focused on longitudinal studies of just a few children in an effort to identify important changes as they occur.

Six children, one girl and one boy from each Abecedarian cohort, were selected for the longitudinal study. The pairs were matched for age at 2½, 4, and 4½ years when the study began. These children will be studied until they enter kindergarten. Once every two months, each child is tape-recorded in spontaneous play with an adult. The child's speech is not constrained in any way except that the same toys are always available, and certain words of interest (mainly polysyllabic animal names such as kangaroo, gorilla, and hippopotamus) are elicited during each session. The tapes are transcribed phonetically with particular emphasis on how the child uses pitch, length, loudness, and vowel quality to signal differences in importance between syllables in a phrase. Selected utterances will be analyzed acoustically for these same characteristics.

Results so far suggest that the FPG children will show broadly similar patterns to middle class children once dialect differences have been allowed for. The longitudinal records will contribute valuable information

to the theory of speech rhythm, and provide a more complete record of the FPG population's language development.

Prerequisites to Reading

Most of the research effort during 1978 was devoted to reading ability. The original intention was to give each child a test that assessed phonemic decoding--the ability to break words into their component sounds (bite may be broken into "buh", "eye", and "tuh" sounds). Most children who have difficulty in learning to read during grades 1 and 2 are poor at this phonemic decoding task. If the test results proved to be good predictors of later reading success, it was intended that a training program would be devised and implemented for those children scoring poorly on the test in the future. It was found, however, that none of the FPG children was able to decode words into component sounds at all. Although some children performed better on the test than did the FPG children, the investigators believe it is basically too difficult for most children under 6 years of age. Further study suggested that phonemic decoding ability is nevertheless crucial to early success in reading, that it can be learned, and that the FPG population experiences difficulty at this task in the public schools.

Accordingly, a training program designed by Michael and Lise Wallach of Duke University is being implemented with the oldest class in the FPG daycare center. In groups of one or two, the children receive about 10 minutes of training in phonemic identification and letter writing each day. Preliminary results suggest that the program is successful with many children. Formal tests of its success will be conducted in May, 1979, although the ultimate test will be the children's reading success in first grade compared to that of their predecessors. Further points of study currently are: (1) how to make the program more suitable for 4-year-olds (it was originally devised for 6 and 7-year-olds); and (2) what training techniques are suitable for the few 4-year-olds who are not yet ready for the formal program.

PRESCHOOL LANGUAGE

ALICE GORDON, INVESTIGATOR

This project examines the effects of daycare environments on the language development of high-risk preschool children. Language skills thought to be important for school success are being assessed in a series of experimental language tasks to compare the strengths and weaknesses in a high-risk group attending daycare with those of a matched high-risk group who are not (control group). Both groups are part of FPG's Abecedarian Project. A middle-class comparison group is included also.

Drawing on work published in the psycholinguistic research literature, experimental language tasks were selected and developed for children aged 3½, 4½, and 5½ years. The intention was not to test the language competence of the child, nor to design tasks which might show a deficit in the lower class child's language. Rather, experiments were designed to assess those language skills needed for success in school. Standard English is being used in all tasks and verbal instructions are given.

Each child's language is being measured in two ways:

--Experimental language tasks, whereby each child receives the age-appropriate version of the tasks each year in two sessions of about 45 minutes each. This part will focus on the child's receptive language development, although some expressive language development will be assessed.

--Elicited speech sample, whereby a half-hour of speech will be taped each year. From these speech samples, an estimate of the child's expressive language development will be obtained with particular emphasis on the development of basic sentence structures.

By the end of 1978, high-risk children in both the daycare and control groups had been tested at 3½, 4½, and 5½ years of age, while middle class children had been tested at 3½ and 5½ years of age. Preliminary results indicate that at 3½ and 4½ years, the performance of the daycare group exceeded that of the high-risk control group. At 3½ and 5½ years of age, the performance of the middle class group exceeded that of both the high-risk groups.

It is expected that the entire project's results will be used to estimate four aspects of language performance: basic words, representative sentence structures, complex words and sentence structures, and understanding connected discourse. This information will be helpful in evaluating the effectiveness of the FPG daycare program because it will allow a direct comparison of the daycare group with the control children. It is expected also that the project will yield valuable results for the field of psycholinguistics because it will offer comprehensive documentation of the high-risk child's growing language abilities.

LANGUAGE AS AN ADAPTIVE TOOL FOR THE YOUNG CHILD

LYNNE FEAGANS AND DALE FARRAN, INVESTIGATORS

There is ample data to demonstrate that many children of poverty have difficulty in school. It seems likely that much of this difficulty results from the children's prior inexperience in adapting language to the demands of verbal situations like those they must face in the classroom.

Traditionally, researchers have examined the language of these children by examining particular sentence types and words in isolation from the context in which they naturally occur. But the child at home or in school rarely hears a single word or sentence in isolation; rather he hears a series of sentences related logically, sequentially, or thematically in a variety of contexts. The child then must not only understand the relationship between clauses and sentences in order to function well, but he must also understand the implicit demands of particular language situations. Because these two pragmatic aspects of language are important for school success, they were explored in two experiments.

Two experiments were given in the fall and spring to kindergarten children in FPG's Abecedarian project (high-risk children) as well as to children selected from a general population sample (GPS). Thirty-four children in all were tested. The two experiments were organized to explore the child's ability in understanding, processing, and expressing language. Experiment I dealt with reading theme-related materials to the child in the form of three types of stories: logically related, non-logically related, and those containing temporal-causal connectives like "before" and "after." Experiment II dealt with a three-step sequence of verbal and nonverbal instructions to open a "magic" box.

In each experiment the child was presented the initial information and asked to demonstrate nonverbally that he comprehended it (by acting out the stories with props in Experiment I or by opening a "magic" box in Experiment II). If the child did not correctly perform the story or instructions, the information was repeated until the child comprehended it. The child was then asked to paraphrase the story, or to give sequenced instructions to a blindfolded adult. Finally the child was required to use language flexibly by answering questions about the story or by responding to requests from the blindfolded adult for rephrasing.

The high-risk children were shown in the fall testing to be poorer in comprehending the Experiment I stories than the GPS children. However, the greatest difference between the groups was in their ability to paraphrase the stories and to answer abstract questions. Although all children eventually demonstrated complete understanding of the stories, the high-risk children lost twice as much information in a paraphrase as did the GPS children. Error analyses revealed that high-risk children added more irrelevant information, had trouble sequencing story events, and used more non-referential language (vague use of pronouns). No differences between the groups were found for the length or proportion of complex sentences.

The post-test spring data revealed that the differences between the groups still remained although the high-risk group had significantly gained over the year in the ability to answer questions and to respond to some of the demand characteristics of the task.

Experiment II also yielded differences in language use. Both the GPS and the high-risk children required more trials to learn from a verbal presentation than a nonverbal demonstration, but the high-risk group required more trials than the GPS children to learn the steps presented verbally. Following the demonstration, the GPS group communicated twice as many information units to the blindfolded listener than did the high-risk group. Moreover, the GPS group significantly increased the amount of information communicated when the steps had been presented verbally while the high-risk group did not. When asked to rephrase their communication attempts, the GPS children gave three times the number of rephrases than did high-risk children. These differences were obtained in both fall and spring testing. Following their kindergarten year, however, the high-risk children significantly increased the amount of information they provided initially as well as in response to requests to rephrase.

These data suggest that the language deficits of high-risk children are partially overcome in kindergarten. Even when they have demonstrated their understanding of verbal information, however, they have difficulty communicating it and rephrasing it upon the demands of the listener. These findings suggest the need for specialized language remediation for high-risk children during the preschool years.

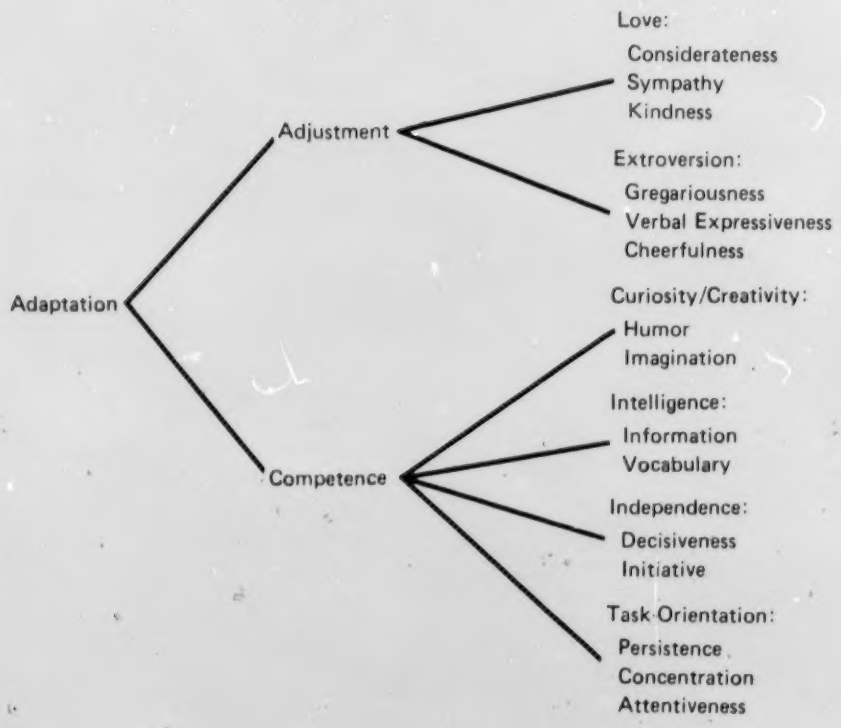
ANTECEDENTS AND CORRELATES OF ADAPTIVE BEHAVIOR

EARL SCHAEFER, SENIOR INVESTIGATOR

Adaptive behavior can be thought of as consisting of two major components: social adjustment and competence. Each of these can be differentiated again into more specific characteristics which include even more specific traits. All of the qualities listed in the accompanying figure

are being studied in this project by means of the Classroom Behavior Inventory (CBI), which teachers fill out about the children in their classrooms.

A Model for Adaptive Behavior



Twenty children who attended the FPG daycare program since infancy have now entered kindergarten or first grade, along with 15 of the control group. Preliminary analyses of data on this small sample indicate that the daycare group show somewhat higher levels of academic competence at kindergarten entrance but less considerateness and more hostility. The 10 children now in first grade persisted in this pattern during the kindergarten year but not into the first grade, when no significant differences were found in CBI ratings. These findings illustrate the need to follow these children for a long time to study lasting effects of intervention. Additional studies are needed to determine at what ages group daycare has optimal value for children.

Observation and information about the children's home environment have been collected through the preschool years using Caldwell's HOME Inventory. This data correlates with CBI ratings of intelligence and task orientation. Parent interview data, however, is less related. This is in contrast to earlier findings that parent interview data are strongly associated with child competence for a heterogeneous sample. This raises the question of the validity of interview data for groups of lower socioeconomic status.

In summary, variations in child care are shown by these findings to be related to children's adaptive behavior; differences are found between children who received home care and those who received group daycare; variations in home environment are also related to the child's behavior at kindergarten entrance.

In comparing ratings across time, kindergarten CBI ratings were found to be very similar to those in the daycare center just prior to the transition, showing stability across settings. However, behavior from year to year during the preschool period was more variable, indicating that individual differences may remain rather unstable throughout the preschool years.

Of the three major factors, extraversion showed the highest stability over time, suggesting that this characteristic may be hereditary or at least determined very early in life. Love and consideration, as opposed to hostile behavior, showed much fluctuation, perhaps reflecting the well-known "stages" of the preschool years. Ratings of competence and intelligence became increasingly stable throughout the preschool years and became more differentiated from other child qualities. For example, it became easier in the later preschool years to determine whether the bright, responsive child had high mental ability or was unusually outgoing socially.

ADAPTIVE BEHAVIOR IN THE CLASSROOM

DONALD MCKINNEY, SENIOR INVESTIGATOR

These observational studies of adaptive behavior in the classroom have two purposes: (1) to evaluate the development of specific adaptive behaviors as they evolve in primary education following early intervention, and (2) to determine the relationship between task-oriented, social, and affective behavior patterns and academic achievement among high-risk children of varying preschool experiences. The project is now in its second year of data collection.

Recent related studies support the theory that overt classroom behavior is an important determinant of academic progress; that the analysis of behavioral style contributes to an understanding of the child's present

academic progress and predicts his progress later in the school year. With this in mind, the studies are aimed specifically toward:

--assessing the effects of early intervention on the task-oriented, social, and affective behavior of high-risk children during the primary grades;

--determining the relationships between specific classroom behavior patterns and the academic progress of high-risk children over the primary grades;

--evaluating the impact of intervention by the home/school resource teacher on the classroom behavior of high-risk children who have received preschool intervention compared with those who have not; and

--evaluating the relative contributions of intellectual skill and adaptive behavior in predicting the academic progress of high-risk children with different preschool experiences.

The observational instrument being used is the Schedule for Classroom Activity Norms (SCAN), which was developed at FPG to measure overt task-oriented, social, and affective behavior patterns during instructional activities. One of the 14 discrete categories is coded every five seconds for 10 minutes in conjunction with a four-digit setting code which depicts type of instructional activity, size of the group in which the subject is working, role of the teacher in the work endeavor, and nature of the task requirement (i.e., passive-responsive, productive sequential, or productive-non-sequential). Children are observed on two consecutive days with this procedure.

The subjects observed in the first year of this project include nine children who attended the FPG daycare and preschool intervention programs, six high-risk children who received no preschool intervention, and 15 school-aged control children. These 30 children were observed on the three occasions during their year in kindergarten and once during the first grade. Analysis of the first two observations is now complete; it shows that high-risk children show less appropriate classroom behavior than their 15 control classmates and that they tend to work in different groups.

A second wave of children has now entered their kindergarten year and is being observed. As the number of children in this project increases, the project staff will compare the behaviors of the high-risk group who received intervention with the high-risk children who did not. Generally, it is hypothesized that the combination of both preschool and public school intervention will be more conducive to adaptive behavior in high-risk students than either alone, and that either type of intervention will produce more favorable outcomes than none at all.

HOME, NEIGHBORHOOD, AND CLASSROOM OBSERVATIONS

Ron Haskins and Neal Finkelstein, Investigators

This group of studies is designed to learn how a child's social circumstances influence development and school achievement. Each of the studies focuses on some aspect of the child's social experience, and attempts to relate social experience with school academic performance or classroom behavior.

During the past year, the investigators continued those studies begun during the previous year (see FPG's 1978 Progress Report). Observations have now been conducted on 32 low-income children and 27 middle class children. Results from this year's observations were consistent with previous results. Of primary importance is the fact that both groups showed the same low levels of aggressive and negative behavior. Second, middle class children talk somewhat more and have more talk directed toward them than do low-income children, but both groups of children use language in the same general ways--to make comments, to ask and answer questions, to influence the other's behavior. Third, children from low-income families are exposed to more people while playing in their neighborhoods--including adults and children, relatives and non-relatives.

In the second study, the investigators continued interviews of families in both groups, and again the information obtained was similar to that obtained last year. Children from low-income families had frequent contact (at least once a month) with more than 25 different relatives (such as aunts, uncles, grandparents, and cousins), but middle class children rarely saw relatives other than members of their immediate family. In addition, more adults who poor children knew well were unemployed, had lower status occupations, and had children while unmarried than the adults known by children from middle class families. Low-income parents also used physical punishment more frequently than did middle class parents, although virtually all parents said they used at least some physical punishment.

In the third study, the investigators are examining the children's patterns of social interaction with peers and teachers in public school classrooms. Data have been collected on 70 kindergarten children and approximately 35 first-graders, most of whom also participated in the two studies described above. Data suggest that in school settings, low-income black children are just as likely to use language in social

interactions as are middle class white children. However, low-income black children are more likely to use language to direct peers' behavior than are middle class white children, who use language to communicate statements of fact. The data also suggest that at kindergarten entry, black and white children prefer to play and interact with children of their own race.

In addition to continuing these three studies, the investigators have initiated three new ones. In the first, 24 high-achieving (50th) percentile or higher in language on a standardized achievement test) or low-achieving (12th percentile or lower) first grade students were observed in their homes during the evening. As many family members as possible were encouraged to be present. Preliminary analyses of the results revealed few differences in the behavior of low-achieving and high-achieving youngsters or their parents. Both groups of children and mothers spent a substantial amount of time on school-related tasks such as reading and writing. Within the low group, both reading and reward by the mother were significantly correlated with school success. Mothers of high-achieving children more often have academic achievement as a goal for their children when the children reach high school; these mothers have more often attended technical school, and they more often have jobs requiring school-related skills than do mothers of low-achieving children.

In a second new study, 40-minute transcripts have been recorded of language used during neighborhood observations of children from both low-income and middle class families. These transcripts yield three aspects of language: structure, content, and function. These categories may show the way children from different socioeconomic groups use language and the relative effectiveness of their language skill. These various aspects of language use in naturalistic conditions will be related to measures of verbal performance from standardized tests and classroom settings.

The third new study examines the instructional experience and behavior of children while they are in skill groups in the public school classroom. The overwhelming proportion of black children from low-income families in this study are placed in low-ability groups by their teachers. It seems possible that the instructional techniques and educational materials used by teachers with low-ability children may be quite different from those for children with high ability. In addition, the academic behavior of both individual children and their peers may differ across ability groups. Such differences may influence the learning opportunities and academic performance of children in the various ability groups. Children are being observed in the lowest and highest skill groups during language arts instruction in 22 different public school classrooms. The primary objectives are to describe differences in child, teacher, and peer behavior in the lowest and highest skill groups, and to associate these measures with various measures of school performance.

Taken together, these studies will yield a portrait of the social experience and skill of children from contrasting socioeconomic backgrounds. The information also allows a comparison of the relationship between neighborhood and home experiences on the one hand, and classroom behavior and academic performance on the other. Educators and psychologists have often found the source of academic failure with the individual child rather than within the environments that have influenced the child's development or the school environment that is the scene of failure. In the long run, differences in the social experience of children from low-income and middle class families may influence differences in social and academic performance in the classroom.

RESPIRATORY ILLNESS AND BEHAVIOR

ALBERT COLLIER, SENIOR INVESTIGATOR; RON HASKINS AND MARGARET SANYAL, INVESTIGATORS

The investigators have studied several aspects of the more general issue of the effects of children's common respiratory infections on their behavior and learning. In 1979, the investigators will include among their studies an examination of the effects of ear infections on children's ability to hear and understand the speech of others; this study will make use of data gathered in 1978 on the relationship between ear infections and those of the upper respiratory tract.

The middle ear is connected with the throat by the eustachian tube, which equalizes air pressure on both sides of the tympanic membrane (eardrum). It is believed that during colds, the inflamation of the nose and throat blocks the eustachian tube. As air from the middle ear is absorbed, a partial vacuum draws mucous and fluid from surrounding cells. Fluid also leaks out from inflamed blood vessels in the area. An ear infection may result when viruses and bacteria that have been trapped in the middle ear behind the closed eustachian tube begin to grow in the fluid.

To test the hypothesis that colds cause blockage of the eustachian tube and create low pressure in the middle ear, the investigators used an instrument called a tympanometer to measure the middle ear pressure of a group of 28 children aged 2 to 5 years. The children were tested when well and at frequent intervals during colds.

The 28 children had 83 respiratory illnesses among them during the 10-month period beginning February 1, 1978. In addition to performing tympanometry with each illness, cultures of the nose and throat of each child were taken to identify viruses and bacteria. Low middle ear pressure was found in two-thirds of the respiratory infections within two days after onset. After two weeks, the incidence rose to 70%. In

contrast, only 15% of the measures taken of children when they were well revealed low pressure.

Ten percent of respiratory illnesses produced fluid in the middle ear. Viruses were isolated from the children in 25% of cultures taken during illness contrasted with only 5% cultures taken when well. The presence of bacteria in the nose and throat occurred in similar frequencies in ill and well children.

The data show that respiratory infections alter the function of the eustachian tube resulting in development of low middle ear pressure. If viral respiratory infections can be controlled, the incidence of impaired eustachian tube function and ear infections may be reduced.

STIMULUS SELECTION PREFERENCES

JAMES J. GALLAGHER, SENIOR INVESTIGATOR; NEAL FINKELSTEIN, INVESTIGATOR

From infancy on, children are able to discriminate between visual stimuli and auditory stimuli. It is possible that children's selective attention to auditory and visual stimuli can influence language and cognitive development. For example, children who fail to show selective attention among auditory stimuli may show more problems in language ability. The purpose of the stimulus selection project is to study the relationship between children's language ability and their selective attention to auditory and visual stimuli.

In the first year of the project, high-risk children attending the FPG daycare program, high-risk children in the control group, and middle class children were observed in three situations. Each group included children who were 36 and 48 months of age. In a laboratory observation, selective attention to auditory stimulation was assessed. Children operated a lever to select between presentation of a cartoon and its normal soundtrack or the same cartoon accompanied by white noise (similar to the noise between stations on the FM radio band).

In a free play situation, the child could select among four toys that were primarily visual (such as a picture book) and four toys that were primarily auditory (such as a toy piano). Finally, all children were given subtests from the Illinois Test of Linguistic Ability as measure of language skills. The results of the first study indicated that middle class children did better on the test of language ability than did either high-risk group; FPG daycare children did better than did control children. Selective attention to auditory stimuli, as measured by preference for soundtrack versus white noise, was positively

correlated with language ability. In the free play situation, both middle class children and daycare children chose to play with the visual toys more than did the control children. Generally there were no strong preferences for auditory versus visual toys. The amount of play with visual toys was only moderately correlated with language ability.

In the second study, the high-risk groups observed at 36 months of age were observed again at 48 months, and a new middle class comparison group was selected; thus, study II afforded an opportunity to perform a short-term longitudinal investigation. The free play and standardized test situations remained the same. However, a different laboratory task was developed to measure more directly auditory versus visual selective attention during problem solving. Children were presented a memory task that could be solved by attending to either pictures (visual), words (auditory), or both. The data collected in the second study are currently being analyzed.

The data collected in the project so far suggest that children's ability to integrate information in the auditory and visual channels are an important determinant of language and problem solving abilities.

Research

The Carolina Institute for Research on Early Education of the Handicapped (CIREEH)

JAMES J. GALLAGHER, PRINCIPAL INVESTIGATOR

The Carolina Institute for Research on Early Education for the Handicapped (CIREEH), investigates the development of young handicapped children and the role of the family in this development. Begun in August 1977, CIREEH is one of four such institutes in the U.S. that are funded for five years by the Bureau for Education of the Handicapped in the U.S. Office of Education.

FPG serves as the Institute's administrative base. CIREEH's other two components are the Division for Disorders of Development and Learning and the School of Education.

CIREEH employs two research approaches and studies two populations. The two approaches include descriptive studies which examine existing situations or relationships, and intervention studies which introduce new programs in order to evaluate their effectiveness.

Building upon the first year's planning efforts, eight studies were in process during 1978. The organization of CIREEH's program of research is presented in the accompanying table.

First Year Activities

During the first year of operation (1977-78), CIREEH investigators recruited staff and obtained counsel from its national advisory committee, reviewed literature relevant to the research of each project, planned studies, initiated and conducted pilot studies, identified and recruited subject populations, and planned full-scale operations for the following four years.

THE RESEARCH PROGRAMS

THE RESEARCH STRATEGY	THE POPULATION: At-Risk/Mild	Moderate/Severe
Descriptive Studies	a,b	d,e,f,g,h
Intervention Studies	c	g,h

INVESTIGATOR	DESCRIPTION OF RESEARCH
At-Risk/Mildly Handicapped	
(a) Dr. Craig T. Ramey	Characteristics of families of children who are at high-risk for mental retardation caused by their environment.
(b) Dr. Earl S. Schaefer	Family relationships predicting school behavior and achievement of handicapped children and their siblings.
(c) Drs. Craig T. Ramey, Barbara H. Wasik & Joseph Sparling	Preventing mild handicaps through the development and evaluation of a parent education program.
Moderately/Severely Handicapped	
(d) Dr. Ronald T. Wiegerink	Role of parent involvement in preschool programs for handicapped children.
(e) Dr. James J. Gallagher	Characteristics of successful parents of young handicapped children.
(f) Dr. Ann Turnbull	Characteristics of preschool mainstreaming and their effects on parents and children.
(g) Dr. Rune J. Simeonsson	Assessing and predicting developmental progress in children with severe handicaps.
(h) Drs. Kenneth Jens & Nancy Johnson	Developing curricula and alternate forms of monitoring cognitive development in severely/multiply handicapped infants.

Second Year Activities

In the fall of 1978, CIREEH staff were saddened by the sudden loss of Dr. Ira J. Gordon, CIREEH's Co-Principal Investigator. His untimely and unfortunate death brought sorrow to those who had worked with him.

CIREEH's major accomplishments during 1978 involved the implementation of the Carolina Approach to Responsive Education Project (CARE), data collection, completion of pilot studies, curriculum development, instrument development, inter-institute cooperation, dissemination, and training.

Project CARE

Project CARE, shown on the table as study "c", investigates the effectiveness of parent education programs in preventing mild handicaps

among high-risk children. In 1978, 24 high-risk families were randomly assigned to one of three groups: a parent education group (N = 12), a group combining parent education and daycare (N = 6), and a control group (N = 6). An additional 12 families from the general population were included: six were assigned to the parent education and daycare group, and six were assigned to the control group. The parent education treatment consists of biweekly home visits or group meetings in which a CARE staff member shares curriculum materials, child development information, and child care knowledge with parents.

Data Collection

In the At-Risk/Mildly Handicapped Program (studies "a"--"c"), data have been collected on: 1) families (childrearing attitudes of mothers and fathers--or grandmothers, mother's locus of control, parents' childrearing needs, mother-child interaction, IQs of siblings, and a range of demographic variables); and 2) children (infant development and preschoolers' classroom behavior and achievement).

In the Moderately/Severely Handicapped Program (studies "d"--"h"), data have been collected on: 1) programs (implementation of preschool mainstreaming, and characteristics of mainstreamed preschool programs for handicapped children); 2) parents and homes (family roles, various aspects of stresses and supports for families, mother-child interaction, and the childrearing environment); and 3) infants (affective responses to a variety of stimuli).

In the pilot study of parent involvement in programs for handicapped preschoolers (study "d"), substantial parent involvement was found in each of the nine projects surveyed. The type of involvement varied considerably from one project to another. The primary emphasis, across the projects, was on activities which related information and instruction for parents rather than involvement of parents in decision-making and management. The type of parent involvement did not appear to be related to the level of income, geographic location, severity of child's handicap, staff training, or the other variables which were examined.

A simulation study, using some real and some hypothetical data based on the Carolina Record of Infant Behavior, yielded results which suggest this instrument has potential for predicting clinical judgment distinguishing successful and unsuccessful handicapped children.

Curriculum Development

A curriculum for developmental ages birth to 12 months was developed for moderately and severely handicapped infants (study "h"). A model was developed whereby the skills which infants should master in the first year of life were divided into 18 categories and developmental sequences determined within those categories. Curriculum items were written for all of the skills in the skill sequences. This curriculum will be pilot tested during 1979.

In Project CARE, the development of strategies for an individualized parent education program was begun. This curriculum effort is focusing on the parent as learner and on the process of the mother-child interaction.

Instrument Development

Instruments were developed to assess characteristics of moderately and severely handicapped infants, the social assets of young handicapped children, various aspects of family relationships and roles, parent's attitudes about childrearing and education of infants, preschoolers and handicapped children, parent's satisfaction with and involvement in programs for the handicapped, parent cooperation with parent-education programs, and various aspects of sibling behavior.

Inter-Institute Activities

CIREEH investigators met with representatives from the other three BEH institutes to plan collaborative efforts in data management and dissemination. Symposia involving investigators from all four institutes have been submitted for several professional conferences. The first issue of a newsletter describing the four institutes was prepared by the BEH institute at UCLA. This newsletter will be published semi-annually by the four institutes. Efforts are under way to establish a common data system for all four institutes.

Dissemination

Presentations were made at several conferences regarding development of curriculum for handicapped infants, parent involvement in programs for the handicapped, preschool mainstreaming, and other aspects of the development and education of young handicapped children. Literature reviews and position papers were prepared on preschool mainstreaming, curriculum development for severely handicapped infants, and parent involvement in programs for handicapped children.

Training

In addition to involving 17 doctoral students from the fields of psychology, education, and law as research assistants and fellow trainees, CIREEH staff have provided training for doctoral students and professionals from other areas of the country. Five advanced doctoral students from the Southeast attended a week-long doctoral externship on research and program development for moderately/severely handicapped handicapped infants. A similar experience was provided for three university faculty members and four staff members from developmental day-care programs.

Research

Individual Research Projects

INFORMATION NEEDS AND INFORMATION DELIVERY FOR PARENTS WITH VERY YOUNG CHILDREN

JOSEPH SPARLING, INVESTIGATOR

Although many professionals in the field of child development realize that parents need more information to help them rear their children, little progress has been made in responding to parents' information needs. This study grew out of the need to discover what specific types of child development information would be useful to parents and to demonstrate ways of providing information.

Funded under a contract with the federal Administration for Children, Youth, and Families, the project began in October 1977 and included two phases. The first phase assessed parents' information needs through a national survey of 1,558 parents with children younger than three years of age. The survey employed a questionnaire that was divided into four parts. The first part asked parents to identify the sources of information (such as books, television, or doctors) that they prefer to use. The second part revealed parents' interests by asking them to rate titles of articles on children that they would like to read. In the third part, parents' attitudes toward their children's behavior were recorded. The fourth part comprised a list of child-rearing problems for the parents to rate in terms of frequency. Some patterns emerged from the questionnaire responses:

--As revealed by the titles of articles they would like to read, parents generally are interested in their child's total development, rather than only one dimension such as health. A typical parent gave top ratings to such varied titles as, "Build your child's self-confidence," "The sick child: What to do," and "Prepare your child for learning."

--Parents generally chose titles of articles that showed that they want to play an active and skillful role in their child's development, rather than a passive role.

--The six most frequently reported problems are (1) concern for helping the baby develop to full potential, (2) finding time for the parent to be alone, (3) finding a babysitter, (4) the child's crying, (5) household safety, and (6) the demanding child.

--Parents' interests and problems varied according to the parent's age, age of the youngest child, number of children, mother's education, and family income.

--Low-income (poverty-level) parents showed particular interest in titles such as "Raising a family as a single parent," and "The challenge of being a teenage parent."

--Low-income parents may have a hierarchy of information needs. They would place first priority on protecting their child's health, second on coping and finding community resources, and third on promoting their child's learning and development.

These survey results were used to carry out the second part of the project, a North Carolina demonstration of information delivery. Two strategies were employed: visiting parents in their homes and presenting information in pediatric clinics to parents who were waiting for appointments. This phase was completed on March 31, 1979; results are being measured through telephone interviews and records of observations.

This project is intended to provide data that can be used to develop informational products for parents and to improve child development programs that rely on parent involvement.

HEALTH RESEARCH

ALBERT COLLIER, SENIOR INVESTIGATOR; FRED HENDERSON, INVESTIGATOR

FPG's health research program has compiled medical data on FPG's children since 1966, supported by funds from a variety of sources including the National Institute for Child Health and Human Development, the Environmental Protection Agency, and the National Heart, Lung, and Blood Institute. Two major research activities were supported in 1978: a review of ten years of data on respiratory syncytial virus, and further study of the effects of respiratory infections on lung growth and development.

Respiratory Syncytial Virus Infections

Respiratory syncytial virus (RSV) is the most common cause of pneumonia and bronchiolitis (chest infection with wheezing) in infants and young children, but little is known about how the body develops immunity to RSV infections over a period of several years. Without knowledge of the pattern of natural immunity, attempts at developing vaccines for RSV have been unsuccessful. This FPG study provided data on natural immunity by studying the same group of children for 10 years.

Of 103 children enrolled in the FPG daycare program, 78 (43 females, 35 males) were admitted before age six months and were observed during their first exposure to RSV. These children experienced an average of four exposures to the virus while being followed. In all, there were 313 potential exposures to RSV studied. Over the 10-year period there were seven outbreaks of RSV infections. Sixty of 61 (98.4%) children who were at risk for their first RSV infection were infected during the epidemic. The infection rate in children re-exposed to the virus one year after their first infection was 75%. While the rate is significantly reduced from the first infection rate, the degree of resistance to reinfection is of marginal practical consequence. The attack rate for third infection was 65%, not significantly different from the second infection attack rate.

Another aspect of immunity, however, is the reduction of severity in subsequent infections. There was a steady reduction with subsequent infections in the occurrence of middle ear disease and lung findings while the percentage of infected children who remained well or had only rhinorrhea (runny nose) increased.

In summary, natural RSV infection induces only a modest degree of resistance to reinfection. After the first two or three infections, the average annual risk for infection is approximately 40% per exposure. Also, the body's immune system appears to lessen the effects of each succeeding RSV infection. These two observations together suggest that any vaccine or program of innoculation against the RS virus will likely help reduce the effects of infection but not prevent infection altogether.

Effects of Respiratory Infections on Lung Growth

The most rapid phase of children's lung growth occurs during the first year of life when respiratory tract infections are most prevalent. It has been hypothesized that acute infections of the lower respiratory tract during the period of rapid lung growth may interfere with lung growth and result in later breathing problems. The purpose of the present study was to corroborate these findings in a study of children with lower respiratory tract infections that did not require hospitalization.

Since 1972, the investigators have studied respiratory infections and pulmonary (lung) function in a population of 60 children among those enrolled in FPG's daycare program. Children were admitted into the study

at 6 weeks of age and followed through daycare, kindergarten, and elementary school. They were permitted to attend the daycare center when it and excluded only when they had varicella (chickenpox). Each child was monitored daily for signs of respiratory tract infection. The children had respiratory tract cultures (nasal wash and throat swab) for viruses, bacteria, and mycoplasmas performed every two weeks when well, and at the onset of each respiratory illness. With each illness the children were seen by a pediatrician, who recorded symptoms, physical findings, clinical diagnosis, and culture results for entry into a computerized data base. Illnesses were categorized as upper or lower respiratory infections; the latter included clinical diagnosis of epiglottitis, croup, tracheobronchitis, bronchiolitis, and pneumonia.

Measurements using a spirometer were begun as soon as the children became old enough to participate, at about three years of age. The spirometer measures the amount of air a child can hold in his lungs and how rapidly he can blow it out. Tests were conducted every three months, at the onset of each respiratory illness, and one month after the onset of the illness.

Data have been analyzed for 15 children who are now six years old to evaluate the relationship between incidence of lower respiratory tract infections during the first four years of life and pulmonary function when well during the fifth year of life. All lower respiratory tract infections were identified and the 15 subjects were divided into two groups. The six children who were assigned to Group I had no more than one lower respiratory infection during the first four years of life. The nine children in Group II had more than one lower respiratory tract infection during this period.

Six types of data taken from measures using the spirometer showed that children in Group I had greater lung capacity and function than those in Group II. This difference was statistically significant for three of the measures: peak expiratory flow rate, instantaneous flow at 50 percent forced vital capacity remaining in the lung, and instantaneous flow at 25% forced vital capacity remaining in the lung.

This analysis suggests a correlation between the occurrence of lower respiratory tract infections in the first four years of life and subsequent pulmonary function in the fifth year of life. If the correlation is correct, two possible explanations are: 1) the lungs of the children in Group II were genetically predisposed to substandard pulmonary function and prone to early lower respiratory tract infections, or 2) the occurrence of a larger number of lower respiratory tract infections in Group II interfered with normal lung development. The investigators are currently developing new measurement techniques that could provide evidence as to which of these two explanations is correct.

CLASSROOM BEHAVIOR PATTERNS OF LEARNING-DISABLED CHILDREN

DONALD MCKINNEY, SENIOR INVESTIGATOR; LYNNE FEAGANS, INVESTIGATOR

This project is presently conducting follow-up investigations of learning-disabled children who have received special education services and who are now placed in regular classrooms. The project is completing its third and final year of studies funded by the Bureau of Education for the Handicapped in the U.S. Office of Education.

The project has been organized into three successive studies, each of which focused on a different aspect of behavior of learning-disabled children: behavior that distinguishes LD children from their classmates, behaviors that contribute to their ability to benefit from remedial LD programs, and behavior that enables them to take part in their regular classroom activities after their remedial program has ended.

During the first study, 167 learning-disabled children from 14 schools were observed with the Schedule of Classroom Activity Norms (SCAN). The children were evaluated with behavioral inventories, questionnaires, and achievement data in order to compare those who responded successfully to a resource room (remedial) program with those who were unsuccessful.

General findings from this study revealed that learning-disabled children tend to fall further behind their classmates as they get older. Although resource room programs appear successful in arresting this trend, they are generally unable to reverse it and bring LD children up to normal classroom performance.

The second study was designed to compare the classroom behavior patterns of learning-disabled children at the time they were identified (but prior to receiving any help from a remedial program) to the behavior patterns of a comparison group. Comparison group children were those progressing normally in the regular classroom but who were matched with the learning disabled children on sex, race, and classroom teacher. In addition, they had no history of outstanding behavioral or academic problems. Fifty-eight pairs of children in kindergarten through third grade participated in the second study. Relationships between behavior patterns and academic progress over the school year were determined for both groups with the finding that learning-disabled children were engaged more frequently in negative behaviors and teacher interaction than were their classmates. Teacher perceptions of the learning-disabled children were also significantly less positive than for other children. Finally, scores on all subtests of the Peabody Individual Achievement Test (PIAT) were significantly lower, as expected, and these discrepancies increased with age level. The mean IQ of the learning-disabled children was within the normal range, but significantly lower than their classmates'.

The third study is a follow-up of the learning-disabled children identified in the second study. A new group of comparison children are being identified for the follow-up investigation to insure that learning-disabled children and their matches have the same regular classroom. Forty-three of the 58 learning-disabled children who took part in the second study are available for participation. As in the second study, the learning-disabled children and their matches are being observed with the SCAN observational system, are being administered the PIAT, and are being evaluated by teachers using behaviorally oriented questionnaires and inventories. This post-test information should provide more insight into the effects of the resource room program on the achievement, teacher perceptions, and classroom behavior of learning-disabled children.

LONGITUDINAL STUDIES OF LEARNING-DISABLED CHILDREN

DONALD MCKINNEY AND LYNNE FEAGANS, CO-PRINCIPAL INVESTIGATORS

This longitudinal research project will investigate over three years the language, problem-solving, cognitive, and personal/social competencies of learning-disabled children. Its purpose is to identify characteristics of children with differing patterns of learning disabilities so that remedial programs can be more easily tailored to each child's needs. It will also attempt to construct a comprehensive picture of the children's competencies and patterns of development. Despite considerable progress that has been recorded in establishing remedial programs in learning disabilities, their success has been hampered by a lack of specific knowledge about the nature of LD and a general theoretical confusion.

The project, funded by the Bureau of Education for the Handicapped in the U.S. Office of Education, is now in its first year of study. To date, 40 learning-disabled children and 40 who are progressing normally have been selected from 14 North Carolina schools. The total projected sample will be 60 LD children and 60 comparison children from kindergarten through second grade.

The children will be matched into 60 pairs according to sex, age, race, and classroom. All subjects will be followed for three years with a variety of measures which assess their adaptive use of language, strategies for processing information, and cognitive development. Task-oriented, social, and affective behavior will be examined with the SCAN (Schedule for Classroom Activity Norms) observational system and rating scales completed by classroom and resource teachers. Children will be given the WISC (Wechsler Intelligence Scale for Children) and individual achievement tests. Interviews are scheduled for the families of all children in the project as well as for the learning disabilities teachers. Pilot work on normally achieving

children and learning-disabled children is near completion for the language, problem-solving, and cognitive tasks to be administered during each of the three years of the project. Measurements taken on successive occasions will be analyzed both within and across domains using multivariate statistical techniques.

The project is expected to provide information on the developmental patterns of learning-disabled children, rather than on their deficits on certain academic tasks. It is hoped that this information will lay a basis for the organization of LD programs that build on children's learning strengths.

ETHNOGRAPHIC RESEARCH

NORRIS BROCK JOHNSON, INVESTIGATOR

In seeking to promote development of children, it is important to focus attention on the structure and function of the school environment in which children will spend a large portion of their formative years.

This project, begun in 1977, is designed to provide ethnographic data on the structure and function of schooling in American society as well as data on the nature and characteristics of school processes. The ethnographic approach centers on observation of human behavior as it relates to other aspects of social and cultural life. From this perspective, the school is treated as a small society with its own customary culture. The school is a secondary socialization mechanism for participation in the national society.

The first year's work has been devoted to refining conceptual and theoretical approaches to an ethnographic study of schools and schooling. Initial emphasis was placed on the analysis of data gathered with a grant from the National Institute of Mental Health on classroom social organization and culture. One finding of this analysis was that the value system in this society (competition, individualism, and rank) is transmitted through school systems.

With a grant from the Spencer Foundation, the Investigator will consider the structure and process of schooling in general. Schooling is a twelve-year process which remains quite difficult to study. More traditional approaches have focused primarily on aspects of schooling such as curriculum, cognition, or language acquisition. As a whole system, the structure of schooling is rarely studied; with few exceptions, the developmental sequences of classrooms and grade levels have yet to be adequately explored. The theoretical scheme being developed here is that schools are an interface mediating between the competing structures of the family and the bureaucratic work world. Ethnographic

research on classrooms ought to show a discernable progression from a structural emphasis on "family like" characteristics in primary school to a "bureaucratic like" emphasis in secondary school. With cross-sectional data gathered in the NIMH study, this proposition will be tested in classrooms to be studied under the Spencer grant. The purpose of this research is to describe the processes and developmental sequences comprising the structure of public schooling from preschool through the twelfth grade.

With a pilot grant from the University Research Council, the Investigator will conduct preliminary research during the summer of 1979 in the Grendaines, British West Indies. This research will test theories on socialization processes in non-school apprenticeship situations.

Pilot research will select an island for more intensive ethnographic study; the Grendaines were selected because the residents are widely known for high order cognitive skills involved in the building and navigating of water craft without the aid of mechanical means. Further research will provide comparative, cross-cultural ethnographic information necessary to more fully understand socialization processes in formal school situations.

Demonstration and Development

INFANT CURRICULUM

JOSEPH SPARLING, INVESTIGATOR

An infant curriculum entitled, Learningames for the First Three Years, was developed out of seven years' curriculum research at FPG. The book is scheduled for publication by Walker and Company in the fall of 1979.

In the fall of 1978, a parent curriculum was begun. This new curriculum is part of project CARE in the CIREEH program. The CARE curriculum is being designed to support the skills parents (and other adults) use in dealing responsively and effectively with children younger than three years of age. It uses the resources of the previously developed infant curriculum, but focuses squarely on the adult's role in stimulating development. This curriculum is projected for completion in 1981.

THE EARLY CHILDHOOD CURRICULUM DEVELOPMENT PROGRAM

THELMA HARMS, INVESTIGATOR

The Early Childhood Curriculum Development Program is designed to develop, field test, and evaluate educational materials and approaches for preschool and the primary grades, with accompanying teacher and parent education units. The program's goal is to create materials for a comprehensive learning environment which emphasizes cognitive, creative, and affective growth.

The children who attend FPG's daycare program and two public school kindergarten-first grade classes provide the population for curriculum development. The children are grouped by age: 12 infants under 1 year of age, 14 toddlers aged 1 to 3 years, 25 preschoolers, and 52 kindergarten and first graders in two classes. (See also "The Abecedarian Project" in the Research section of this Report.)

Principal new activities this year include the design of a language development program for 3 and 4 year-olds, preservice teacher education units piloted in conjunction with the UNC-CH School of Education, and daycare assessment and training materials.

Kindergarten-First Grade Curriculum

The kindergarten curriculum program, implemented in 1976, was expanded to include first grade in 1977. Emphasis has been placed on innovative approaches in mathematics and reading, and on fostering the communication skills that underlie learning in both these areas. Development staff and teachers have collaborated to produce mathematics and language exercises and games that integrate other areas of the curriculum such as cooking, carpentry, and art. The British Breakthrough to Literacy program has been used along with language experience approaches and phonics practice to provide a varied reading program. During the 1978-79 school year, independent implementation of existing curriculum units by the teaching staff was possible without additional Development staff input. This stage of the on-site field testing was considered necessary preparation for dissemination to other classrooms.

Questioning strategies for kindergarten-primary teachers have been the focus of the new K-1 development efforts this year. All previously designed approaches, such as the parent newsletter and guide card activities for children, have been continued and extended by the teaching staff. Several of the K-1 curriculum units are now available for distribution.

Language/Communication Staff Development Project

Observational data on the FPG daycare children suggested that some children needed more opportunities to respond orally in the classroom and that more individualized strategies for eliciting language were required. During 1978-79, an intensive staff development project in language techniques has been implemented.

An approach to stimulating language that is described by British linguist Joan Tough in the book, Listening to Children Talking, has offered a powerful tool for FPG teachers to use in eliciting children's oral responses. In 1979, more emphasis will be placed on incorporating language goals into teacher plans. Similar language work has begun with the 1 and 2 year-olds.

Dissemination and Training

In conjunction with several faculty members of the School of Education, a preservice teacher practicum is being piloted which includes many of the kindergarten-primary curriculum units. This practicum includes some shared training and experience with special education students, and preparation for working with parents. By concentrating student teachers in schools that have made a commitment to teacher education, the student teachers become involved in all aspects of teaching responsibilities. Academic coursework is integrated with classroom practice and conducted largely at the public school site.

Inservice training has also been conducted. During the summer of 1978, members of the curriculum development staff offered seven inservice workshops on topics of interest to teachers in kindergarten and the primary grades. These workshops were incorporated into summer teacher training institutes sponsored by various local school districts in the state-sponsored N.C. Primary Reading Program Institutes. The Chapel Hill-Carrboro City Schools offered this series of workshops given by FPG staff members as their 1978-79 kindergarten teacher inservice programs.

Day Care Assessment and Training Materials

The development staff has worked with the cooperation of the N.C. Department of Human Resources to produce training materials for daycare staff. Among these materials is The Day Care Environment Rating Scale, an instrument designed for use by teachers and supervisory staff to evaluate their facilities, furnishings, and programs. The scale is currently being used in a study of classroom change following staff training. Several slide/tapes and a book, Environmental Provisions in Day Care, are also available as part of the environment training approach.

Service as a Demonstration Center

In 1978, 499 people visited the FPG children's programs. Presentations by various members of the curriculum development staff have been scheduled as part of the visitor program. In addition to an introduction to the work of the Center, visitors have an opportunity to observe ongoing classroom activities and to discuss these activities with members of the development and teaching staff. Visitors to the Center included daycare and public school teachers, student teachers, supervisors, and teacher trainers.

Plans for Continuation

All activities described above will be continued in the coming year. The language/communication staff development project will be extended downward to teachers of 1 and 2 year-olds, and upwards to teachers of primary school children. Additional preservice teacher education units will be designed, field tested, and evaluated in collaboration with the School of Education. Several studies are currently under way to gather information on the effectiveness of day care training using The Day Care Environment Rating Scale.

Outreach and Training

TECHNICAL ASSISTANCE DEVELOPMENT SYSTEM (TADS)

PASCAL TROHANIS, DIRECTOR

The Technical Assistance Development System was established in 1971 and currently operates under a three-year contract with the Bureau of Education for the Handicapped (BEH) in the U.S. Office of Education. TADS provides a wide range of support services to grantees in the Eastern states of BEH's Handicapped Children's Early Education Program (HCEEP). TADS serves two client groups, which share the mission of stimulating and developing services for all young handicapped children and their families. One group consists of locally-based demonstration projects. The other consists of state agencies.

During 1978, TADS assisted 67 demonstration projects and 10 state education agencies. TADS provided help with planning and implementing local and statewide service programs for handicapped preschoolers and their families and with staff development, program evaluation, demonstration and dissemination, interagency coordination, and program administration. Technical assistance (TA) was provided through consultation, project visitations, information services, conferences, print materials, and small workshops. The type of assistance made available by TADS to a client is determined by an individualized assessment of need.

Some highlights of this year include: cooperatively planning with BEH and WESTAR (the TA agency serving western HCEEP clients) for orientation and topical conferences as well as print products; developing an audiovisual package for state decision-makers on the service needs of preschool handicapped children and the rationale for serving them; convening two Advisory Board meetings; implementing a comprehensive evaluation plan for documenting TA activities and effectiveness; and providing specialized assistance to HCEEP projects' minority leadership.

1978 Media Products

Additionally, as part of its continuing efforts to make information available to the practicing professional, TADS published two books in 1978 through Walker Publishing Company, Inc. (New York): Social and Emotional Development: The Preschooler and Early Education in Spanish-Speaking Communities. Other print products produced include:

--Product Listing, an annotated bibliography of materials developed by eastern HCEEP programs;

--Points of View, proceedings of a state implementation grant conference;

--Language Intervention, a compilation of selected programs for the impaired;

--Planning for Evaluation, a resource book for programs;

--HCEEP Overview and Directory, a guide to the HCEEP network; and

--Emphasis, a quarterly newsletter.

1979 Plans

In 1979, TADS plans to continue its technical assistance efforts with HCEEP demonstration projects and state grantees. Additional planned activities include: designing, implementing, and documenting new procedures for deploying TA; documenting additional information about TA; providing more opportunities for UNC-CH students to become familiar with TA concepts and processes; developing useful print products; and assessing future program prospects beyond the third year of the contract.

DEVELOPMENTAL DISABILITIES TECHNICAL ASSISTANCE SYSTEM (DD/TAS)

RONALD WIEGERINK, DIRECTOR

DD/TAS was initiated in 1971 and completed its national mission in September 1978. Its mission has been to establish a technical assistance system to provide support to the nation's Developmental Disabilities Planning Councils. Both the DD councils and DD/TAS are funded by the U.S. Office of Human Development. The councils have been appointed in 56 states and territories to plan and coordinate services for citizens handicapped by mental retardation, cerebral palsy, epilepsy, and related disorders. DD/TAS has provided direct technical assistance through its staff, established a nationwide Human Resources (consultant) Network and supported the development of other technical assistance programs.

During this period, DD/TAS has followed a sequence of activities reflecting the developing and maturing needs of the councils. During its first year of operation, DD/TAS assessed each council's needs for training and information. During the second year of operation, DD/TAS conducted a series of orientation training conferences for council staff executives and chairpersons while continuing to provide direct technical assistance to DD councils. In the third year, DD/TAS focused on training the professional staff of each council by developing orientation materials and conducting training workshops across the country. DD/TAS provided staff training during the fourth year on such topics as advocacy, public awareness, federal resources, and policy analysis. During the fifth year, DD/TAS focused on orienting new council members and on the developing regional technical assistance projects. In the final year, DD/TAS continued individual state technical assistance activities, conducted two Futures Conferences to expose human service planners to the study of "futurism," and produced a number of major publications.

During 1978, DD/TAS completed its national assistance to the councils and converted its operations into a regional program serving eight Southeastern states. The project is scheduled to officially terminate in 1979.

In the seven years since its inception, DD/TAS delivered 586 documented examples of technical assistance directly to State DD Councils. In addition, DD/TAS conducted over 100 workshops or conferences with all 50 states and three territorial planning councils, sending representatives to one or more sessions repeatedly over the years. DD/TAS also provided in excess of 500 material packages developed specifically for state and territorial councils as well as distributing over 20,000 copies of its more than 50 media or print product publications, including its national award-winning Themes and Issues series.

DD/TAS--REGION IV

ALLEN ZIEGLER, DIRECTOR

DD/TAS-Region IV, which began operations in October 1977, provides technical assistance to Developmental Disabilities Planning Councils. The Councils have been appointed by the governors of the eight states in the region: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee. The project is funded by the Region IV Developmental Disabilities Office in HEW's Office of Human Development.

During 1978, DD/TAS-Region IV concentrated on providing the Councils' members with information and help in several topic areas: management and organizational development, deinstitutionalization, monitoring and evaluating programs, advocating for developmentally disabled citizens,

and planning services. Technical assistance was also rendered to state agencies and the statewide "Protection and Advocacy" systems mandated by federal law.

As an outgrowth of a spring workshop on the relationship of the state Developmental Disabilities Planning Councils and the state "Protection and Advocacy" systems, the project published Advocacy Resources for DD Councils. The publication is a listing of print resources designed to assist the state Councils in defining, developing, and implementing advocacy activities in their states.

In November, DD/TAS-Region IV conducted a two-day workshop for DD Council staff and agency personnel in Region IV. This workshop, which had six state councils represented, dealt with the interlocking nature of three major planning phases: policy formulation, implementation, and evaluation. A workshop planned for 1979 will address the leadership role of DD Council chairpersons.

DAY CARE TECHNICAL ASSISTANCE AND TRAINING SYSTEM (DC/TATS)

RICHARD CLIFFORD, DIRECTOR

To contribute to the effort to improve daycare for young children in North Carolina, FPG's Day Care Technical Assistance and Training System (DC/TATS) was initiated in July 1976. DC/TATS is now in its third year of funding from the N.C. Department of Human Resources and has provided training and technical assistance to three groups:

--staff members of 22 Early Intervention Projects located in area mental health centers across North Carolina;

--daycare coordinators (county social services staff) working with daycare centers in 72 North Carolina counties;

--15 daycare consultants employed by the North Carolina Division of Social Services (DSS).

Conferences, workshops, on-site consultations and information services are the primary means of delivering training to client groups. In the summer of 1978, DC/TATS held a five-day conference for the staff members of the Early Intervention Projects. Workshops on treatment techniques used with emotionally disturbed children were presented to the trainees as well as workshops on "Community Interrelationships in Prevention and Intervention." Individual agreements were also developed with each project based on their specific training needs. Under these agreements, training strategies were developed to meet each identified need.

In May 1978, a DSS Day Care Training Institute was held for both county daycare coordinators and DSS consultants. Daycare training for the year emphasized home based daycare, school-aged daycare, summer programs for the school-aged child, the health of children in daycare, and the use of self-administered forms for assessing programs. The day-care consultant training will not be continued in 1979, although DC/TATS will work closely with the new contract agency providing this training.

In addition to evaluating the impact of it's own training, DC/TATS in conjunction with the Department of Human Resources Evaluation Section will conduct a pilot study to evaluate the effectiveness of training on the provision of daycare services, using the "Day Care Environment Rating Scale" developed at FPG.

The DC/TATS library added new acquisitions and materials produced by staff members in 1978. More than 200 projects in the state borrowed these materials that included five slide/tape packages with training manuals produced at DC/TATS:

--Day Care Curriculum, a training tool for daycare staff on the basic components of a curriculum for children;

--Individual Child Care Arrangements, which describes how to build the skills of home daycare providers;

--Meeting Individual Needs of Young Children, an overview of the four major areas of developing curricula to meet individual needs;

--Day Care for School-Aged Children, an introduction to after-school care;

--Child Guidance Clinic Day Treatment Program, a description of a model program of early intervention for children with social and emotional problems.

In 1979, DC/TATS will extend its services directly to daycare teachers in selected daycare centers and daycare homes in six North Carolina counties. This component will emphasize on-site training and will complement the program's existing training efforts.

RESEARCH TRAINING PROGRAM

DONALD MCKINNEY, DIRECTOR

The Research Training Program is now in its fifth year at FPG. A grant awarded by the National Institute of Child Health and Human Development (NICHHD) funds this training program for students who will pursue research professions in child development and mental retardation.

Since its inception in 1974, the RTP has incorporated a multidisciplinary approach in its program for 17 doctoral and five postdoctoral students. These fellows have studied in seven university departments: special education, educational psychology, developmental psychology, maternal and child health, city and regional planning, and pediatrics. Nine of these 17 doctoral trainees are presently in some phase of dissertation preparation and two have completed doctoral requirements. Each student, while specializing in a U.N.C. doctoral program, also participates in practicum, seminars, and supervised research at FPG. The postdoctoral students have included two specialists in pediatrics, one in child development, one in psychology/nursing and one in learning disabilities.

Summer internships give the students practical experience in administration. Over the past five years, students have interned in such settings as the Massachusetts State Department of Education, Harvard's Children's Hospital Medical Center, Neuro-psychiatric Institute at UCLA, U.S. Bureau of Education for the Handicapped, and the North Carolina Office for Children.

The RTP faculty also reflect diversification of specialties, representing seven university departments: Education, Maternal and Child Health, Pediatrics, Psychiatry, Psychology, Speech and Hearing, and Anthropology.

During the past five years, students have presented their research at national conferences, including those of the Society for Research in Child Development, the Council for Exceptional Children, and the World Congress for Exceptional Children.

Other Training

FPG's health care staff in 1978 provided 16 hours of training to 22 students enrolled in the University's Family Nurse Practitioner (FNP) program. This one-year course of study is designed to upgrade the skills of practicing nurses so they can relieve doctors of routine medical care. FPG staff gave the students instruction and practice in such areas as child health assessment, infant stimulation, daycare, and behavior management.

Support was also provided to University schools and departments by FPG staff who taught more than 42 courses in the 1978-79 academic year while supervising 13 masters' theses and 35 doctoral dissertations. The training activities of CIREEH and the Early Childhood Curriculum Development program are described in those programs' sections of this Report.

Public Policy Analysis

THE BUSH INSTITUTE FOR CHILD AND FAMILY POLICY

JAMES J. GALLAGHER, DIRECTOR; RON HASKINS, COORDINATOR

In the last two decades, there has been a growing realization among social scientists that research and publication in journals does not necessarily qualify as expertise in public policy. One response to this realization has been a call for explicit training in the analysis of public policies and the application of social science knowledge to social problems.

It was in this context that FPG was given the opportunity in June 1978 by the Bush Foundation of St. Paul, Minnesota, to create a training program in policy analysis. In addition to the program at FPG, the Bush Foundation also funded training programs at Yale University, the University of Michigan, and the University of California at Los Angeles. All of these programs train doctoral students and post-doctoral fellows in the use of social science techniques and information to improve public policies that affect children and families.

Bush Faculty and Fellows

Although the UNC Bush program is based at the FPG Center, the Institute faculty consists of both FPG staff and faculty members from other departments or schools in the university. These faculty members include James J. Gallagher, Education; Ron Haskins, FPG; Thelma Harms, Education; Dale Farran, Special Education; Norris Brock Johnson, Anthropology; Jonathan B. Kotch, Public Health; Frank Loda, Pediatrics; Duncan MacRae, Jr., Political Science and Sociology; C. Arden Miller, Public Health; Robert M. Moroney, City and Regional Planning; Craig T. Ramey, Psychology; Harriet L. Rheingold, Psychology; Eli Rubinstein, Psychology; Joseph Sanders, FPG; Joan W. Scott,

History; Donald J. Stedman, UNC General Administration; Robert P. Strauss, Economics; Ann Turnbull, Special Education; and H. Rutherford Turnbull, III, Institute of Government.

Doctoral students are enrolled in a regular academic department and fulfill all requirements for the Ph.D. degree set by that department. Before the third year of doctoral work, they are admitted to the Bush Institute for two years. During this time, they complete course work in models of policy analysis, a policy analysis on some topic concerning children and families, and their dissertation (which is typically related in some way to their policy analysis). For the 1978-79 academic year, the doctoral students and their analysis topics were: Julia Hall (education), Adapting Competency Testing Programs to Meet the Needs of the Learning Disabled; Vicci Mikow (sociology), The Displaced Homemakers Program; and Helen Samuels (psychology), North Carolina's High Priority Infant Identification and Tracking Program.

Professional fellows have five or more years' experience in settings that deal with children or families, such as a research or teaching institution, advocacy group, government bureaucracy, or community service center. The professional fellows spend one year at Bush learning about techniques of policy analysis and applying these techniques to a policy problem that grew out of their previous experience. The first year's professional fellows and their topics were: Paula Breen (public health), The Supplemental Security Income Program for Children; Jean Latting (public health), Consumer Participation on Neighborhood Health Center Boards; and Samuel Streit (law), Lawyers in Defense of Children: The Legal Child Advocacy Movement.

The Bush Model of Policy Analysis

In conducting a policy analysis, each student or fellow adopts an approach under the guidance of a member of the Bush faculty. Although several approaches have been articulated, the final analysis documents to be produced by the students and fellows will generally cover six major points: a statement of the problem in terms of its causes, variables, and possible remedies; the criteria by which a policy will be analyzed; an organization of the contributions of several disciplines and perspectives into a coherent statement; an analysis of pros and cons of competing recommendations for policies; a recognition of the problems in communicating recommendations to policymakers; and an understanding of the mechanics and feasibility of implementing the recommended policy.

First Year's Activities

Progress toward completion of the students' and fellows' policy analyses constituted one of four major activities in the first year of the Bush Institute.

A second major activity was a series of weekly seminars held to discuss models of policy analysis and to apply these models to particular types of public policy including health, daycare, welfare, and child abuse and neglect. The seminar also provided an opportunity for doctoral students and professional fellows to present and discuss their own policy analysis problem.

Third, the Bush Institute sponsored a colloquium series on the theme, "Care and Education of Young Children in America." This series brought seven distinguished social scientists and policymakers (Bettye Caldwell, University of Arkansas; Irving Lazar, Cornell University; George Silver, Yale University; Henry Levin, Stanford University; James Comer, Yale University; Ellen Hoffman, Children's Defense Fund; and Martha Phillips, Minority Counsel of the House Ways and Means Committee) to Chapel Hill to present papers on aspects of policy that influence the care and education of young children. While in Chapel Hill, these scientists and policymakers also met in seminar with Bush students to discuss various aspects of research and public policy.

The fourth primary activity of the Bush Institute was a two-day workshop on the roles of the academic community and the media in educating the public and informing policymakers. In addition to faculty, fellows, and students from the Bush Institute, more than 20 representatives from North Carolina and national media attended the workshop. The workshop was planned to achieve three objectives: to present research information to members of the media on three policy topics of current concern to policymakers and the public (daycare, family violence, and income maintenance); to describe and discuss the discipline of policy analysis; and to increase the understanding of Bush faculty and students about the media and its concerns. A forthcoming FPG publication will summarize the activities and outcomes of this workshop.

Administration and Support Services

COMMUNICATIONS

Joseph Sanders, Director

The diversified programs conducted at FPG present a full range of demands for communication and dissemination. The program now includes research, demonstration and development, outreach and training, and public policy analysis. These areas employ media formats such as scholarly journals, slide/tape packages, periodicals, contract proposals, videotapes, and press releases. Within the area of learning disabilities alone, FPG's communications needs range from technical documentation of new research knowledge to public discussion of state programs.

The FPG communications office concentrates on assisting staff members with producing those documents, manuscripts, and information pieces that fall outside the routine documentation needs of projects. This assistance includes providing editorial continuity to major contract proposals, producing or coordinating documents that must be printed, and communicating information that represents the Center as a whole to outside audiences.

In 1978, the communications office published four issues of a national newsletter, Developments, produced a recruitment brochure for the Bush Institute, issued both a general Progress Report and a technical Status Report on FPG activities, published a bi-weekly newsletter for FPG employees, and released several news and feature articles through the UNC News Bureau. The office also coordinated a workshop for 20 reporters and editors throughout U.S.; the workshop on reporting child and family policy was hosted by the Bush Institute and scheduled for March, 1979.

The Center's technical assistance and curriculum development projects also produce media products to meet their own specific needs; these products are listed in the projects' sections of this Report. In 1978, the media products produced by the communications office and other components of FPG were recognized by the Society for Technical Communication and the International Association of Business Communicators with nine awards in regional competitions and two at the international level.

COMPUTER SERVICES

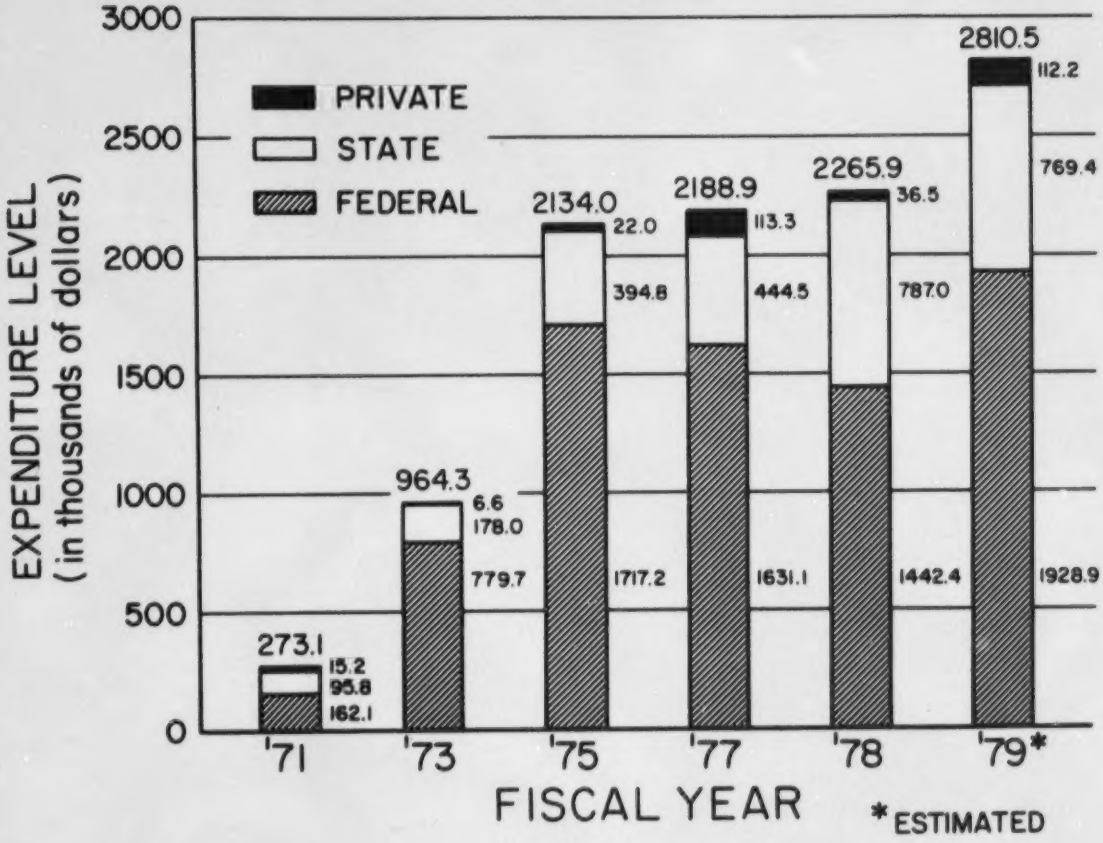
KAYE FENDT, DIRECTOR

The computer services office was established in 1977 to promote data sharing among researchers and across large projects, thereby enhancing FPG's multidisciplinary studies. The primary function of the office is to maintain secure and accurate storage for FPG research data to include both hard copy and computerized information. The office is equipped with a low-speed line printer, two terminals, and fire-proof storage units. In addition, the office provides consultation to investigators, research assistants, and graduate students on forms design, data handling, and data processing. The computer terminal room is available for use by all FPG personnel.

In 1978, the office completed a system analysis of FPG's medical data. Several changes were made, including the implementation of a mechanized inventory system which will enable weekly reporting on the status of data processing and will increase the accuracy and timeliness of the medical data files. A system analysis of the FPG administrative office was also completed and is currently being implemented.

TREND IN SOURCES OF SUPPORT FOR YEARS 1971-1979

FRANK PORTER GRAHAM CHILD DEVELOPMENT CENTER



1979 Estimated Expenditures by Project

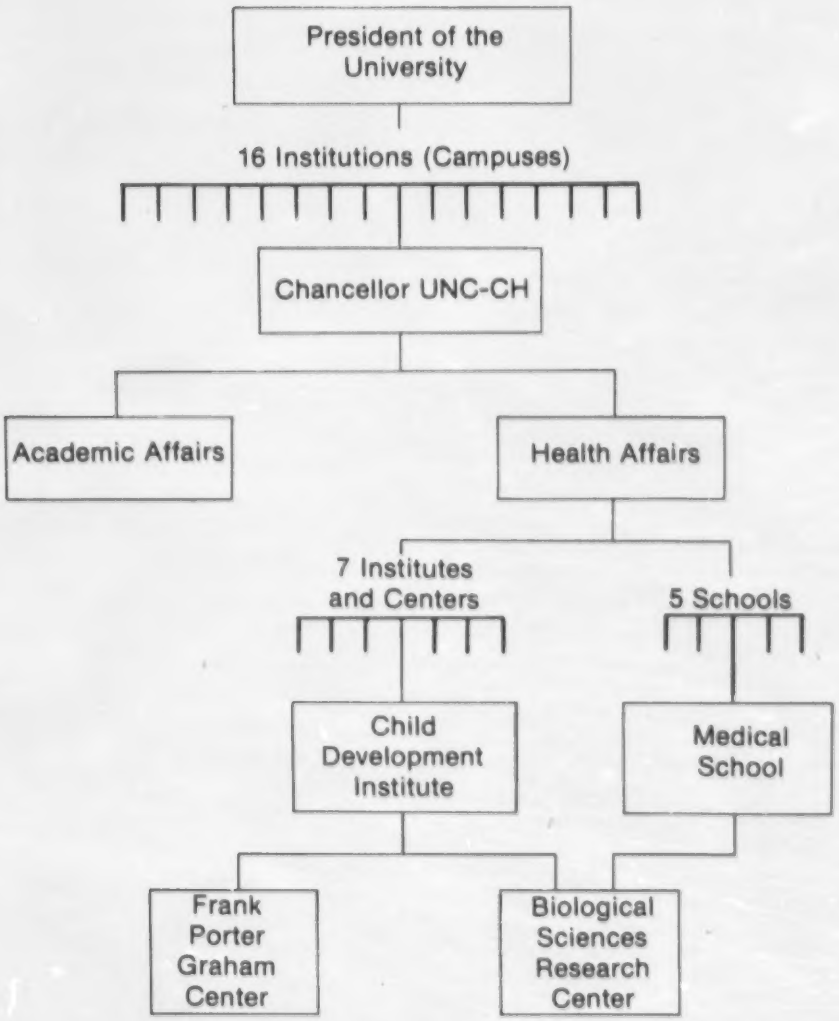
PROJECT	SOURCE	AMOUNT
Federal		
Core Funds	NICHD	210,958
Longitudinal Program (Ramey/Gallagher)	NICHD	372,748
CIREEH	BEH	331,137
Classroom Behavior of L.D. Children (McKinney)	BEH	47,493
Longitudinal L.D. (McKinney)	BEH	75,459
Information Needs of Parents (Sparling)	ACYF	44,357
On-task Behavior of L.D. Children (George/Gallagher)	BEH	192
Research Training (McKinney)	NICHD	77,660
DD/TAS (Wiegerink)	OHD	58,774
DD Region IV (Ziegler)	OHD	126,131
TADS (Trohanis)	BEH	574,127
Communication Skills (Blacher-Dixon/McKinney)	BEH	4,636
Infants at Risk (O'Connell/Farran)	BEH	5,227
Federal Sub-total		1,928,899

1979 Estimated Expenditures by Project (continued)

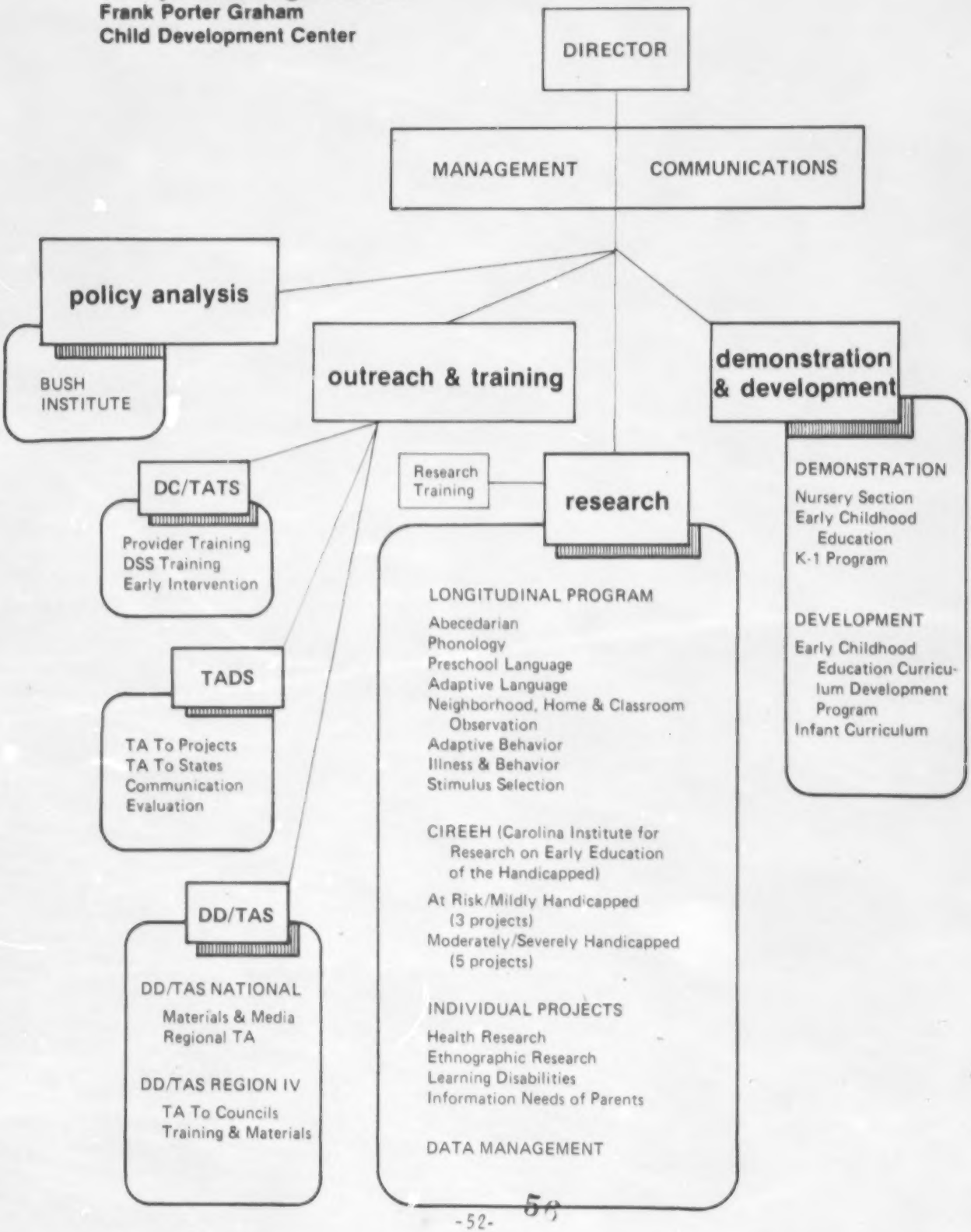
PROJECT	SOURCE	AMOUNT
State of N.C.		
FPG Center	UNC-CH	488,961
Early Childhood Education Program (ECE) (Ramey/Gallagher)	DHR	52,686
DC/TATS (Clifford)	DHR	219,094
Child Find (Trohanis)	DPI	8,701
State Sub-total		769,442
Private		
Bush Institute (Gallagher)	Bush Foundation	102,058
ECE Curriculum Devel. (Harms)	Levi Strauss Found.	3,872
FPG Center	Trust Funds	6,324
Private Sub-total		112,254
TOTAL		2,810,595

KEY: NICHD: National Institute of Child Health and Human Development
BEH: Bureau of Education for the Handicapped
ACYF: Administration for Children, Youth, & Families
OHD: Office of Human Development
DHR: N.C. Department of Human Resources
DPI: N.C. Department of Public Instruction

relationship of FPG
to the university of north carolina



Component Organization
Frank Porter Graham
Child Development Center



Staff With Joint Appointments on January 1, 1979

NAME	DEGREE	AWARDED BY	RANK	SCHOOL OR DEPARTMENT	PERMANENT TENURE
G. Allen	PhD	Michigan	Assoc. Prof.	Speech & Hearing Oral Biology	Yes
M. Appelbaum	PhD	Illinois	Assoc. Prof.	Psychology	
A. Collier	MD	Miami	Assoc. Prof.	Pediatrics	Yes
D. Farran	PhD	Bryn Mawr	Clin. Asst. Prof.	Education	
J. Gallagher	PhD	Penn State	Kenan Prof. Research Prof.	Education Psychology	Yes
A. Gordon	PhD	Stanford	Asst. Prof.	Psychology	
T. Harms	PhD	UC-Berkeley	Asst. Prof.	Education	
F. Henderson	MD	UNC-CH	Asst. Prof.	Pediatrics	
K. Jens	PhD	Wisconsin	Assoc. Prof. Clinc. Scientist	Education BSRC	
N. B. Johnson	PhD	Michigan	Asst. Prof.	Anthropology	
N. M. Johnson	PhD	UNC-CH	Asst. Prof. Lecturer Clin. Scientist	Psychology Education BSRC	
D. Lillie	EdD	Indiana	Prof.	Education	Yes

Staff With Joint Appointments on January 1, 1979 (continued)

NAME	DEGREE	AWARDED BY	RANK	SCHOOL OR DEPARTMENT	PERMANENT TENURE
D. McKinney	PhD	NC State	Assoc. Prof.	Education	Yes
J. Pelosi	PhD	Syracuse	Clin. Assoc. Prof.	Education	
C. Ramey	PhD	W. Virginia	Res. Prof.	Psychology	
E. Schaefer	PhD	Catholic U.	Professor	Maternal & Child Health	Yes
R. Simeonsson	PhD	George Peabody	Assoc. Prof.	Education	Yes
J. Sparling	PhD	Michigan	Lecturer	Education	
P. Trohanis	PhD	Maryland	Clin. Assoc. Prof.	Education	
A. Turnbull	EdD	Alabama	Assoc. Prof.	Education	Yes
B. Wasik	PhD	Fla. State	Prof. & Assoc. Dean	Education	Yes
J. Watkins	FNP	UNC-CH	Family Nurse Practitioner	Pediatrics	
R. Wiegerink	PhD	Michigan	Assoc. Prof.	Education	

Directors and Senior Staff of FPG Projects

Directors

Dr. James J. Gallagher, Director of FPG; Co-principal Investigator, Longitudinal Program; Principal Investigator, CIREEH* and the Bush Institute for Child and Family Policy

Dr. Thelma Harms, Assistant Director for Development; Director, Early Childhood Curriculum Development Program

Dr. David Lillie, Assistant Director for Outreach

Mr. Scott Puckett, Assistant Director for Management

Dr. Craig Ramey, Associate Director of FPG and Assistant Director for Research; Co-principal Investigator, Longitudinal Program; Senior Investigator, CIREEH*

Senior Staff

Dr. George Allen, Investigator, Longitudinal Program

Dr. Mark Appelbaum, Senior Investigator, Longitudinal Program

Mr. Talbot Black, Associate Director, TADS**

Ms. Carrie Bynum, Head, Infant Nursery Section, Early Childhood Education Program

Dr. Frances Campbell, Investigator, Longitudinal Program

Mr. Richard Clifford, Director, DC/TATS***

Dr. Albert Collier, Senior Investigator, Health Research Program

Ms. Lee Cross, Director, Early Childhood Education Program

Dr. Dale Farran, Investigator, Longitudinal Program

Mr. George Farrell, Associate Director, DC/TATS***

Dr. Lynne Feagans, Investigator, Longitudinal Program and Learning Disabilities project

Ms. Kaye Fendt, Manager, Computer Services

Dr. Neal Finkelstein, Investigator, Longitudinal Program

Dr. Alice Gordon, Investigator, Longitudinal Program

Ms. Jean Gowen, Coordinator, CIREEH*

Dr. Ronald Haskins, Assistant Director for Longitudinal Research; Investigator, Longitudinal Program; Coordinator, Bush Institute

Dr. Fred Henderson, Investigator, Health Research Program

Dr. Kenneth Jens, Investigator, CIREEH*

Dr. Nancy Johnson, Investigator, CIREEH*

Dr. Norris Johnson, Investigator, Ethnographic Research

Dr. Donald McKinney, Senior Investigator, Learning Disabilities Project and Longitudinal Program; Director, Research Training Program

Dr. John Pelosi, Associate Director, DD/TAS****

Mr. Joseph Sanders, Communications Specialist

Dr. Earl Schaefer, Senior Investigator, CIREEH* and Longitudinal Program

Dr. Rune Simeonsson, Associate Director, Research Training Program; Assistant Director, CIREEH*

Dr. Joseph Sparling, Investigator, CIREEH* and Longitudinal Program

Ms. Linda Stallings, Administrative Manager of FPG

Ms. Tanya Suarez, Associate Director, TADS**

Dr. Pascal Trohanis, Director, TADS**

Dr. Ann Turnbull, Investigator, CIREEH*

Dr. Barbara Wasik, Senior Investigator, CIREEH*

Ms. Jessie Watkins, Family Nurse Practitioner, Health Research Program

Dr. Ron Wiegerink, Director, DD/TAS****; Investigator, CIREEH*

Mr. Allen Ziegler, Director, DD/TAS, Region IV****

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* Carolina Institute for Research on Early Education of the Handicapped
** Technical Assistance Development System
*** Day Care Technical Assistance and Training System
**** Developmental Disabilities Technical Assistance System

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(See also: Sarah Hawkins)

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JAN BLACHER-DIXON

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